Snow Surveyors Climbing to a Snow Course

FEDERAL-STATE COOPERATIVE SNOW SURVEYS AND IRRIGATION WATER FORECASTS

FOR OREGON

MARCH 1, 1946

By

Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Oregon Agricultural Experiment Station

Data included in this report were obtained by the agencies named above in cooperation with the Oregon State Engineer, U. S. Forest Service, National Park Service and other Federal, State and local organizations.

WATER CONTENT OF SNOW ON OREGON WATERSHEDS

BASED ON SNOW SURVEYS MADE ON APPROXIMATELY FIRST DAY OF MONTH

(Valley Lands Not Necessarily Included)

U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

JANUARY 1, 1945 7-L-8563

INDEX TO SNOW COURSES

Number	Name	Elev.
	UPPER COLUMBIA DRAINAGE Lower Snake in Oregon	
	OWYHEE RIVER	
Nev.1	Big Bend	6800
Nev.2	Buckskin, Lower	6800
Nev.3	Buckskin, Upper	8200
952	Fish Creek	7900
Nev.5	Fry Canyon	6800
Nev.6	Gold Creek Ranger Sta.	6600
Nev.7	Granite Peak	8600
Nev.8	Jack Creek, Lower	7000
Nev.9	Jack Creek, Upper	7800
Nev.10	Martin Creek	7000
Nev.11	Rodeo Flat	7000
Ida.12	Silver City	6400
951	Silvies	6900
Ide.13	South Mountain No. 2	6340
Nev.15	Taylor Canyon	5200
	MALHEUR RIVER	
133	Blue Mountain Spring	5900
137	Crane Prairie	5375
136	Lake Creek	5120
134	Rock Spring	5100
135	Stinking Water	4800
	BURNT RIVER	
143	Barney Creek	5950
141	Blue Mountain Summit	5098
156	Dooley Mountain	5430
142	Tipton	5100
	POWDER RIVER	
155	Anthony Lake	7125
154	Bourna	5800
156	Dooley Mountain	5430
151B	Eilerteon Meadowe	5400
249	Gold Center	5340
184	Summit Springs	6000
185	Taylor Green	5740
	PINE CREEK	
161	Schneider Meadows	5400
	IMNAHA RIVER	
171	Coverdale	4250
	GRANDE RONDE RIVER	
183	Aneroid Lake	7480
183A	Aneroid Lake No. 2	7000
155	Anthony Lake	7125
188	Beaver Reservoir	5340
187	Camp Careon	5970
186A	Moes Spring	5850
184	Summit Springs	6000
185	Taylor Green	5740
212	Tollgate	5070

Number	Name	Elev.
	LOWER COLUMBIA DRAINAGE	
	WALLA WALLA RIVER	
212	Tollgate	5070
	UMATILLA RIVER	
222	Emigrant Springs	3925
223	Lucky Strike	5050
221	Meacham	4300
212	Tollgate	5070
	WILLOW CREEK	
241	Arbuckle Mountain	5400
	JOHN DAY RIVER	
241	Arbuckle Mountain	5400
246A	Beech Creek Summit	4800
133	Blue Mountain Spring	5900
141	Blue Mountain Summit	5098
244	Dixie Springe	6650
249	Gold Center	5340
964	Izee Summit	5293
245	Olive Lake	6000
965	Snow Mountain	6300
247B	Starr Ridga	5150
	DESCHUTES RIVER	
326	Caldwell Ranch	4400
321	Cascade Summit	4880
327	Charlton Lake	5750
361	Clear Lake	3500
325	Crescent Lake	4760
343	Derr	5670
351	Hogg Pase	4755
344	Marke Creek	4540
324A	New Dutchman Flat	6400
341	Ochoco Meedows	5200
965	Snow Mountain	6300
342	Tamarack	4800
331	Three Creeks Meadows	5600
	HOOD RIVER	
431	Brooks Meadowe	4300
	SANDY RIVER	
361	Clear Lake	3500
452	Phlox Point - Mt. Hood	5600
451	Still Creek	3700
	CLACKAMAS RIVER	
592	Clackamas Lake	3400
591	Peevine Ridga	3500

Number	Name	Elev.
	WILLAMETTE RIVER	
551	Breitenbush	2325
321	Cascade Summit	4880
522	Champion	4500
327	Charlton Lake	5750
351	Hogg Pase	4755
531	McKenzie	4800
553	Marion Forks	2730
541	Mary's Peak	3620
552	Santiam Junction	3990
521A	Waldo Lake	5500
	KLAMATH LAKE BASIN	
831	Annie Spring	6018
722	Billie Creek Divide	6000
834	Chemult No. 1	4760
Calif.	Crowder Flat	5200
723	Hyatt Prairie Reservoir	4900
835	Lake of the Woods No. 1	4960
811	Quartz Mountain	5320
7211	Seven Lakes No. 1	6800
7212	Seven Lakes No. 2	6200
837	Strawberry	5600
841	Summer Rim	7200
836	Sun Mountain	5350
842	Taylor Butte	5100
	GOOSE LAKE BASIN	
911A	Camas Creek	5720
811	Quartz Mountain	5320
837	Strawberry	5600

INDEX TO THE CALIFORNIA OREGON POWER COMPANY SNOW WATER STATIONS

	KLAMATH LAKE BASIN	
1	Beatty	4300
2	Chemult	4761
3	Chiloquin	4187
4	Crystal	4200
5	Fort Klamath	4150
6	Kirk	4533
7	Lake of the Woods	4960
8	Pelican	4200
9	Quartz Mountain	5504
10	Richardson Ranch	4800
12	Yamsey	4600
	GOOSE LAKE BASIN	
9	Quartz Mountain	5504

Number	Name	Elev.
	INTERIOR DRAINAGE	
	SILVER LAKE	
942	Silver Creek	4900
	CHEWAUCAN RIVER	
922	Mill Creek	6200
	HARNEY BASIN	
973	Deer Creek	6670
952	Fish Creek	7900
971	Hart Mountain	6350
961A	Idylwild Park	5200
964	Izee Summit	5293
134	Rock Spring	5100
951	Silvies	6900
965	Snow Mountain	6300
247B	Starr Ridga	5150
	WARNER LAKE	
911A	Camas Creek	5720
	GUANO LAKE	
Nev.	Bald Mountain	6720
972	Guano Creek	6480
	WEST COAST DRAINAGE	
	UMPQUA RIVER	
522	Champion	4500
743	Diamond Lake	5315
726	Goolawey Gap	3000
7215	Goolaway Mountain	3730
742	N.Umpqua near Lake Creek	4215
741	Trap Creek	3800
7217	Whaleback	5140
	ROGUE RIVER	
7216	Althouse	4400
831	Annie Spring	6018
729	Big Red Mountain	6500
722	Billie Creek Divide	6000
725	Fish Lake	4865
726	Goolaway Gap	3000
7215	Goolaway Mountain	3730
727	Grayback Peak	6000
723	Hyatt Prairie Reservoir	4900
7210	Little Red Mountain	6500
7220	Scragg Mountain	6200
7211	Seven Lakes No. 1	6800
7212	Seven Lakes No. 2	6200
7219	Silver Burn	3720
728	Siskiyou Summit	4630
7218	South Fork Canal	3500
7213	Wagner Butte	6900
7217	Whalebeck	5140

March 1, 1946

WATER SUPPLY OUTLOOK

Oregon's 1946 water supply outlook continues to be very good. Practically all areas of the State are now assured of adequate water supplies and there is a probability that runoff in some areas will very nearly equal the record flows of 1943.

Mountain snow cover continues considerably above average on most Oregon snow courses despite subnormal precipitation during February. Snow cover above 5,000 feet is about 72 percent greater than that of last year and approximately 42 percent greater than average. Below 5,000 feet the snow cover is 352 percent greater than that of last year and 78 percent greater than average.

Watershed soils are generally well wetted and for the most part unfrozen beneath the snow-pack. These conditions are very favorable to a sustained runoff.

Total water stored in principal Oregon reservoirs is 6 percent greater than the 10 year average, 10 percent greater than of similar date last year, 2 percent greater than in 1944, and 8 percent less than in 1943 which was a bountiful year.

Total storage now averages 60 percent of capacity and the number of reservoirs half full or better is greater than last year, but less than in 1944 and 1943.

Precipitation accumulated in Oregon valleys since October 1 is 114 percent of normal as compared with 86 percent of normal for the same period in 1945.

Preliminary forecasts of April-September stream flow, based on existing mountain snow cover, and on the assumption that snow cover increase during March will be average, indicate adequate water supplies for practically all areas of the State. Final 1946 snow surveys and forecasts will be made on the first of April.

The following preliminary runoff forecasts are based on present mountain snow cover and on the assumption that average increase of snow cover will occur during March. Greater or less than average increase in mountain snow cover during March will correspondingly modify these estimates:

Area	Stream	Apr.-Sept., incl., Stream Flow Expectancy as of Mar. 1, 1946	
		As % of Avg. 1929-44	As % of Last Year
Northcentral	W. Fk. Hood River near Dee (Station 438)	129 c	a
Umatilla-Walla Walla	S. Fk. Walla Walla River near Milton (214)	128 e	a
	Umatilla R. at Pendleton (223)	144	a
Northeastern	Grande Ronde R. nr. LaGrande (1816)	136	a
	East Fk. Wallowa R. (1822 + 1823)	140	a
	Hurricane Cr. near Joseph (1814)	134	a
	Lostine R. near Lostine (1810)	128	a
	Bear Creek near Wallowa (1815)	110	a
Eastern	N.Fk. Malheur R. at Beulah (139)	132	a
	Malheur R. near Drewsey (1320)	126	a
	Strawberry Cr.nr.Prairie City (2434)	116 d	a
Harney Basin	Silvies River near Burns (966)	155	a
Central	Ochoco Reservoir Net Inflow	173	a
Southcentral	Deep Creek above Adel (9127)	121 b	a
Klamath Basin	Upper Klamath Lake Net Inflow	190	181
Southern	Rogue River above Prospect (722)	150	a
	Fourmile Lake Net Inflow	128	a
	N. Fk. Little Butte Cr. below Fish Lake (Natural flow) (7230)	125	a
	Hyatt Prairie Reservoir Net Inflow	129	a
	N. Umpqua R. below Lake Cr. (7419)	123	a
	N. Umpqua R. at Toketee Falls (7414)	127	a
	Clearwater R. above Trap Cr. (7420)	118	a
Willamette Valley	McKenzie R. at McKenzie Bridge (534)	123	a
	McKenzie R. near Vida (535)	126	a

a - 1945 Discharge record not available
b - April-June rather than April-Sept.
c - 1933-44
d - 1931-44
e - 1932-44

COMPARISON OF SNOW COVER AS OF MARCH FIRST WITH THAT OF PREVIOUS YEARS

Snow-stored water now present above 5,000 feet:

As percent of that present one month ago	--	124
As percent of that present one year ago	--	172
As percent of that present two years ago	--	199
As percent of average	--	142

Snow-stored water now present from 2,000-5,000 feet:

As percent of that present one month ago	--	123
As percent of that present one year ago	--	452
As percent of that present two years ago	--	232
As percent of average	--	178

Snow water content on 89 percent of all measured courses is greater than at this time in 1945, and in 89 percent of the comparisons, is greater than on about March 1 of 1944. Snow water content on 86 percent of all measured courses is greater than average.

Given below is a tabulation showing inches snow-stored water for the March 1 record period on thirteen scattered snow courses.

Water Content of Snow (Inches) as of About March 1

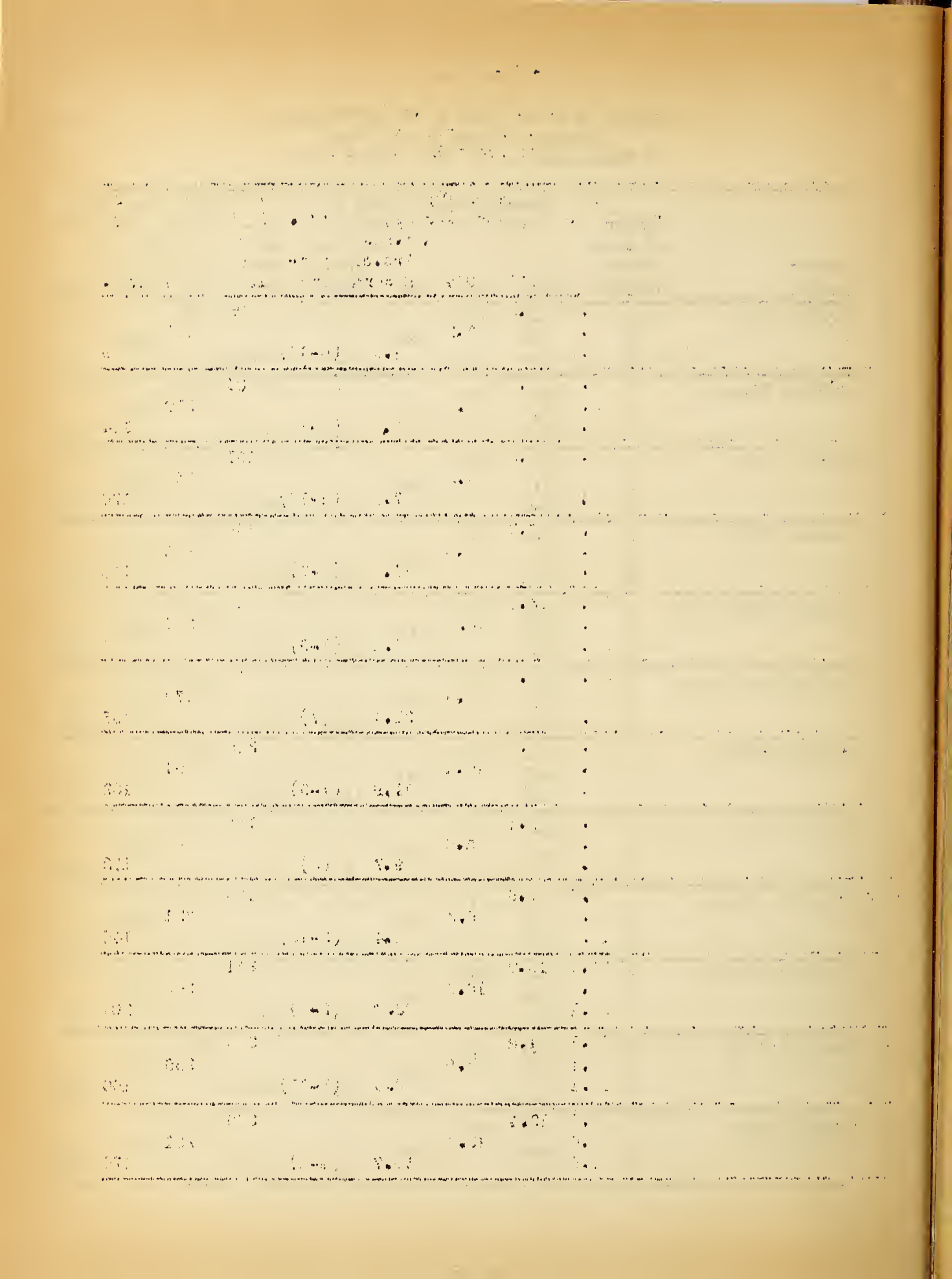
Stream Basin	Clack-amas	Grande Ronde	Powder	John Day-Burnt	John Day-Malheur	Crooked	Owyhee	Harney	Walla Walla	Klam.-Desch.	Klam.-Rogue	Klam.-Rogue	Rogue Umpqua
Snow Course / Year	Peavine Ridge	Moss Sprg.	Eilert-son Mdws.	Blue Mtn. Summit	Blue Mtn. Sprgs.	Ochoco Mdws.	Granite Peak	Izee Sum.	Toll-gato	Chemult	Billie Creek	Annie Sprg.	Diam. Lake
1929										5.8*			12.6*
1930										1.4*	6.4	22.7	5.0*
1931										7.8*	12.8	22.1	7.8*
1932							16.5			11.9*	32.2	N.R.	15.4*
1933							7.4			12.0*	30.9	N.R.	27.0*
1934						0	7.2			0 *	N.R.	N.R.	5.4*
1935			7.3			N.R.	11.8			7.6*	N.R.	N.R.	8.6*
1936			N.R.	10.5	18.6	N.R.	13.5	11.0		12.5*	36.3	52.1	17.6*
1937			N.R.	9.3	15.3	13.6	7.9	8.3		11.0	27.4	37.8	21.2
1938	13.0	19.6	11.5	6.7	19.0	10.0	13.5	6.7		12.5	18.4	41.6	18.2
1939	19.2	N.R.	15.1	9.2	13.9	9.6	12.8	9.1	34.6	8.7	27.8	34.0	18.2
1940	7.6	18.0	13.2	5.4	10.3	8.0	15.0	5.2	18.1	8.0	10.8	38.0	9.6
1941	4.3	16.9	10.6	8.1	14.0	9.8	15.7	7.7	15.6	8.4	13.5	39.9	12.8
1942	8.9	13.9	9.1	9.3	12.8	11.6	13.7	8.8	14.1	10.2	18.0	30.0	14.6
1943	28.2	32.1	17.8	13.4	23.0	14.8	18.9	12.8	31.9	21.4	31.9	46.3	32.9
1944	7.3	13.5	5.2	4.6	7.4	6.1	7.4	6.1	19.9	6.1	15.5	21.7	10.6
1945	6.8	16.8	7.0	7.3	10.4	8.2	11.4	5.8	15.3	5.1	15.2	24.2	9.7
1946	19.5	24.1	15.6	12.3	19.6	14.6	13.0	9.7	35.5	17.6	29.9	63.2	31.8

Underscored is greatest March 1 water content of snow of record period for each snow course shown.

* From COPCO Water Stations. N.R. No Report

STATUS OF SNOW COVER AS OF MARCH FIRST
Summary of Snow Survey Data
by Watersheds as of About March First

Stream Basin	Number of Snow Courses Averaged	Average Water Depth in Snow Cover (Inches) 1946	1945	1944	Avg. Past Yrs. of Record	Yrs. of Record	1946 Snow Water Depth (Inches) as Percent of that in 1945	1944	Avg.
Owyhee River	13	8.4	8.8				95		
	11	8.6		6.2				139	
	13	8.4			8.5	(6-15)			99
Malheur River	6	12.0	5.9				203		
	5	12.2		5.8				210	
	6	12.0			8.3	(1-10)			144
Burnt River	4	13.2	8.2				161		
	2	12.2		5.2				235	
	4	13.2			7.5	(1-10)			176
Powder River	2	13.8	8.2				168		
	3	19.8		8.0				248	
	3	19.8			13.4	(6-9)			148
Grande Ronde River	6	25.3	13.4				189		
	7	26.2		12.9				203	
	7	26.2			16.0	(2-9)			164
Walla Walla River	1	35.5	15.3				232		
	1	35.5		19.9				178	
	1	35.5			21.4	(7)			166
Umatilla River	4	19.3	9.4				205		
	4	19.3		10.1				191	
	4	19.3			11.9	(7-9)			162
Willow Creek	1	14.8	9.1				163		
	1	14.8		8.0				185	
	1	14.8			9.7	(5)			152
John Day River	8	13.7	7.6				180		
	8	13.7		6.2				221	
	8	13.7			9.4	(2-10)			146
Deschutes River	3	28.1	10.0				281		
	3	28.1		10.6				265	
	3	28.1			13.8	(2-5)			204
Crooked River	3	10.1	4.8				210		
	3	10.1		3.9				259	
	3	10.1			6.3	(3-10)			160
Sandy River	3	34.6	12.4				279		
	3	34.6		13.8				251	
	3	34.6			19.7	(4-8)			176



(Continued)

Stream Basin	Number of Snow Courses Averaged	Average Water Depth in Snow Cover (Inches) 1946	1945	1944	Avg. Past Yrs. of Record	Yrs. of Record	1946 Snow Water Depth (Inches) as Percent of that in 1945	1944	Avg.
Clackamas River	1	19.5	6.8				287		
	2	17.6		5.7				309	
	2	17.6			11.1	(6-8)			158
Willamette River	5	28.6	5.7				502		
	5	28.6		9.0				318	
	5	28.6			13.2	(4-7)			217
Chewaucan River	1	9.6	5.9				163		
	1	9.6		4.2				228	
	1	9.6			6.3	(7)			152
Harney Basin	5	10.2	5.6				182		
	7	8.5		4.9				173	
	7	8.5			6.6	(2-11)			129
Silver Lake Basin	1	4.1	0.0				-		
	1	4.1		2.7				152	
	1	4.1			3.3	(6)			124
Warner Lake	1	13.0	8.8				148		
	1	13.0		7.6				171	
	1	13.0			8.2	(2)			158
Guano Lake	1	3.1	3.3				94		
	2	5.4		3.9				138	
	2	5.4			6.0	(5-6)			90.
Umpqua River	4	19.0	3.7				514		
	4	19.0		7.2				264	
	4	19.0			9.5	(7-9)			200
Upper Rogue River	11	22.3	8.1				275		
	10	17.7		8.8				201	
	11	22.3			14.7	(2-14)			152
Applegate River	2	17.6	7.8				226		
	2	17.6		13.2				133	
	2	17.6			14.9	(4-8)			118
Illinois River	2	12.7	4.0				318		
	2	12.7		8.3				153	
	2	12.7			10.5	(4-7)			121
Klamath Lake Basin	17*	18.3	7.0				261		
	15*	15.6		7.7				202	
	18*	17.6			11.4	(2-19)			154
Goose Lake Basin	4*	10.4	7.0				148		
	3*	11.0		6.2				177	
	4*	10.4			7.3	(2-15)			142

* Including Copco water measurement stations.

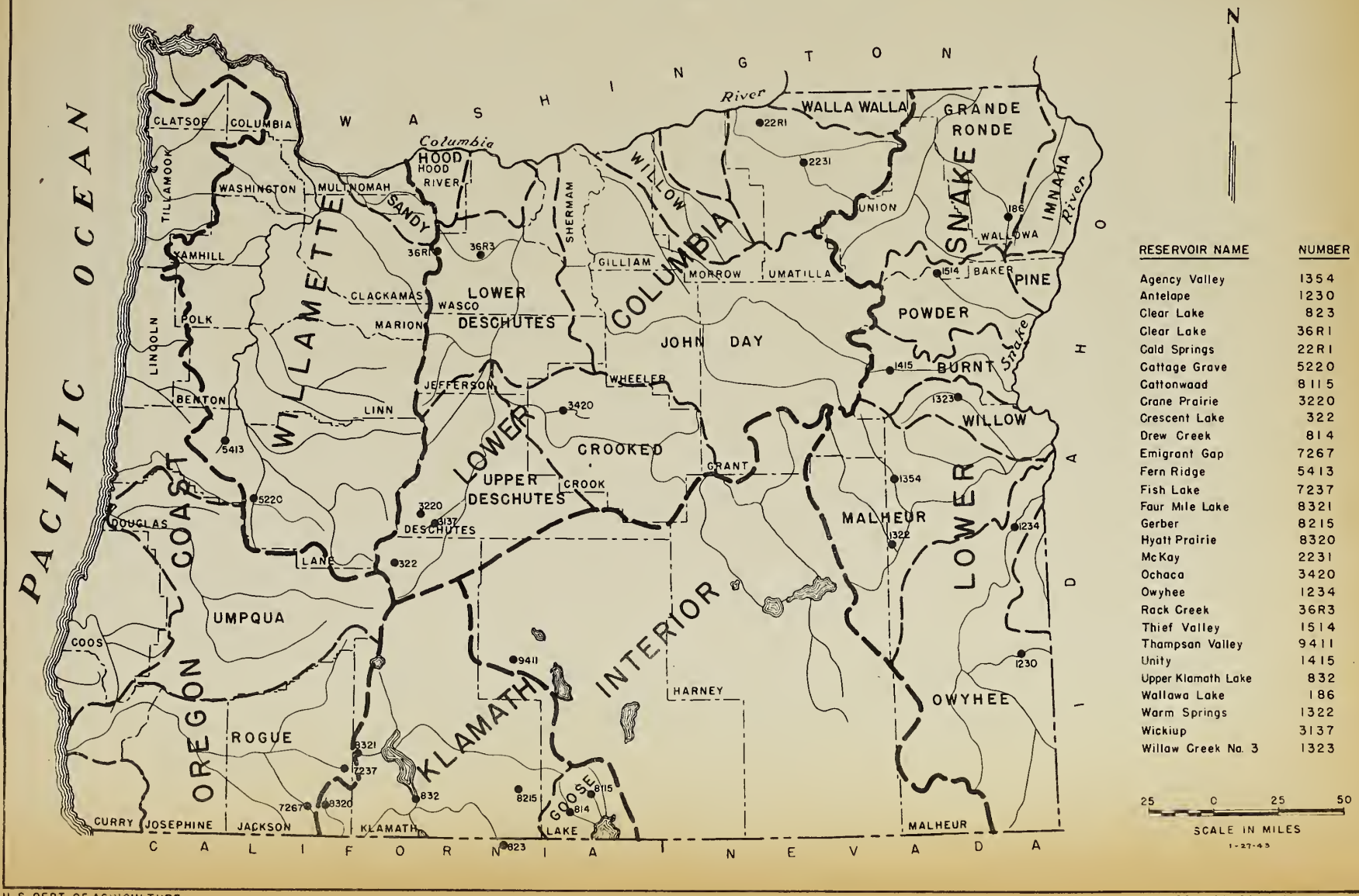
STATUS OF RESERVOIR STORAGE AS OF MARCH FIRST

In the following tabulation, water storage in acre feet in important Oregon reservoirs as of about March 1, 1946, is compared with storage as of approximately the same date in 1945, 1944, 1943, and with 10 year average, 1936-45.

Storage Reservoir	Stream Basin	Capacity Acre Ft.	Acre Feet in Storage				
			About 3-1-46	About 3-1-45	About 3-1-44	About 3-1-43	10-yr.Avg. 1936-45
Agency Valley	Malheur	60,000	42,190[a]	50,250	43,320	19,280	36,985
Clear Lake	Lost River	440,240[b]	244,100[b]	279,730[b]	294,020[b]	260,680[b]	205,047[b]
Cold Springs	Umatilla	50,000	42,000	28,100	39,250	46,750	34,675
Cottage Grove	Willamette	33,090[b]	12,000[b,f]	10,000[b]	7,863[b]	11,090[b]	9,651[b,h]
Cottonwood	Goose Lake	4,160	0 [c]	1,420	300[e]	0 [c]	604[i]
Crane Prairie	Deschutes	50,000	39,660	27,120	46,150	39,330	33,157[j]
Crescent Lake	Deschutes	80,000	32,040[a]	33,330	54,160	34,220	34,269
Drew Creek	Goose Lake	62,500	46,271	41,000	38,760	33,000[a,c]	37,830
Emigrant Gap	Rogue	8,200	8,200	4,828	2,684	7,094	5,814
Fern Ridge	Willamette	101,200[b]	31,000[b,f]	31,000[b]	15,730[b]	56,040[b]	32,972[b,k]
Fish Lake	Rogue	7,720	3,935	3,719	6,972	5,110	4,710
Fourmile Lake	Klamath[d]	14,000	5,010[a]	7,896	11,770[a]	4,137	7,700[j]
Gerber	Klamath	94,000[b]	23,170[b]	52,200[b]	45,220[b]	21,740[b]	42,250[b]
Hyatt Prairie	Klamath[d]	16,000	2,885[a]	2,970	7,080	9,822[a]	6,102
McKay	Umatilla	74,000	44,470	39,530	39,130	62,050	35,497
Ochoco	Crooked	46,000	32,030[a]	4,500[a]	22,830	38,750	13,738
Owyhee	Owyhee	716,000[b]	601,710[b]	501,240[b]	497,150[b]	606,780[b,c]	542,386[b]
Rock Creek	Deschutes	1,350	1,350	-	500	-	-
Unity	Burnt	25,260	11,810	11,700	7,058	7,460	9,382[l]
Upper Klamath	Klamath	583,900[g]	347,020[g]	302,660[g]	355,600[g]	414,600[g]	405,276[g]
Wallowa Lake	Wallowa	40,920	11,630	10,690	31,220	25,320	19,745
Warmsprings	Malheur	190,000	87,010[a]	65,550	116,140	160,400	95,550
Wickiup	Deschutes	180,000	55,500	54,280	0	4,296	19,525[h]

a - Estimated
b - Available for use
c - Water being by-passed to provide space for anticipated inflow
d - By ditch to Rogue River side
e - Approximate
f - Storage space reserved for flood control during high water season
g - Based on gage zero elev. of 4135.0
h - 1943-45
i - Excl. 1942
j - 1937-45
k - 1942-45
l - 1938-45

IMPORTANT OREGON RESERVOIRS



RESERVOIR NAME	NUMBER
Agency Valley	1354
Antelope	1230
Clear Lake	823
Clear Lake	36R1
Cold Springs	22R1
Cottage Grove	5220
Cottonwood	8115
Crane Prairie	3220
Crescent Lake	322
Drew Creek	814
Emigrant Gap	7267
Fern Ridge	5413
Fish Lake	7237
Four Mile Lake	8321
Gerber	8215
Hyatt Prairie	8320
McKay	2231
Ochoco	3420
Owyhee	1234
Rock Creek	36R3
Thief Valley	1514
Thompson Valley	9411
Unity	1415
Upper Klamath Lake	832
Wallowa Lake	186
Warm Springs	1322
Wickiup	3137
Willow Creek No. 3	1323

U.S DEPT OF AGRICULTURE

SOIL CONSERVATION SERVICE
7-L-3060

STATUS OF VALLEY PRECIPITATION AS OF OCTOBER 1 TO DATE

Month	Oct.		Nov.		Dec.		Jan.		Feb.		Period	
Section	P	D	P	D	P	D	P	D	P	D	P	D
S.E.	0.70	-0.01	1.31	+0.14	2.04	+1.01	0.8	-0.5	0.7	-0.3	5.55	+0.34
S.C.	1.24	+0.27	2.53	+0.51	2.93	+0.91	1.7	-0.2	1.1	-0.4	9.50	+1.09
N.C.	0.96	+0.06	2.96	+1.16	3.48	+1.78	1.6	+0.2	0.6	-0.5	9.60	+2.70
Col. Riv.	0.66	-0.34	2.38	+0.69	2.64	+0.91	1.5	-0.2	0.8	-0.6	7.98	+0.46
Wal. Mts.	0.52	-0.92	2.36	+0.48	2.41	+0.54	0.8	-0.6	1.0	-0.3	7.09	-0.80
Blue Mts.	0.72	-0.60	3.01	+0.77	3.04	+0.74	1.5	-0.3	1.4	-0.1	9.67	+0.51
Southern	1.54	-0.38	6.66	+3.43	5.04	+1.20	4.3	+0.8	2.3	-0.7	19.84	+4.35
Willamette	2.13	-1.98	13.99	+6.28	9.55	+1.04	6.7	-1.1	7.0	+0.5	39.37	+4.74
Area	1.06	-0.49	4.40	+1.68	3.89	+1.02	2.4	-0.2	1.9	-0.3	13.58	+1.67

P - Inches precipitation. D - Inches departure from normal.

S. E. - Southeastern Oregon range lands, Harney and Malheur Counties.
S. C. - Southcentral Oregon range lands, Lake County and Klamath County, except the Cascade Mountains.
N. C. - Northcentral Oregon wheat and range lands, Crook, Deschutes, Jefferson, Wheeler and part of Grant Counties.
Col. Riv. - Columbia River area, wheat and range lands, Gilliam, Morrow, Sherman, Wasco and part of Umatilla Counties.
Wal. Mts. - Wallowa Mountain area, forest and range lands, Wallowa and part of Baker County.
Blue Mts. - The Blue Mountain forest and range area, Union and parts of Baker, Grant and Umatilla Counties.
Southern - Southern Oregon irrigated section, Jackson and Josephine Counties.
Willamette - Parts of Polk, Benton, Yamhill, Washington, Lane and all of Linn, Marion, Clackamas and Multnomah Counties.

Note: Data for the last two months shown above are preliminary only, as they are based on a few stations only. Data for earlier months have been corrected to include all the stations in Climatological Data for the area.

STREAM BASINS (Primary & Secondary & Snow Courses)	LOCATION Oregon Number	Sec.	Twp.	Range	Elev.	SNOW COVER MEASUREMENTS About March 1, 1946 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	Average Water Depth (Inches) One Month Ago (2-1-46)	One Year Ago (3-1-45)	Two Years Ago (3-1-44)	Avg. for past yrs. of record	Yrs. of record
UPPER COLUMBIA DRAINAGE													
LOWER SNAKE IN OREGON													
OWYHEE RIVER													
Big Bend	Nev.	30	45N	56E	6800	3-7	34.8	a 10.1	-	8.1	6.4	9.6	14
Fry Canyon	Nev.	32	43N	54E	6800	3-1	31.4	a 8.8	-	8.6	8.2	9.6	12
Gold Creek Ranger Sta.	Nev.	32	45N	56E	6600	3-7	28.2	a 7.3	-	6.3	4.0	6.8	14
Granite Peak	Nev.	27	44N	39E	8600	3-4	40.2	a 13.0	-	11.4	7.4	12.3	14
Lower Buckskin	Nev.	25	45N	39E	6800	3-4	25.8	a 7.1	-	8.8	-	8.2	13
Lower Jack Creek	Nev.	19	42N	53E	7000	3-2	15.8	a 5.2	-	6.6	4.8	5.1	15
Martin Creek	Nev.	24	44N	39E	7000	3-4	26.9	a 6.7	-	6.8	3.8	7.1	14
Rodeo Flat	Nev.	31	43N	54E	7000	3-2	32.0	a 9.5	-	10.0	10.1	10.4	12
South Mountain No.2	Idaho	35	7S	5W	6340	3-4	43.0	a 15.1	15.4	12.5	7.1	11.4	6
Taylor Canyon	Nev.	32	39N	53E	5200	3-3	20.3	a 6.7	-	7.6	4.2	6.5	11
Tremewan Ranch	Nev.	4	29N	55E	5600	3-7	7.2	a 2.5	-	2.2	2.9	3.0	14
Upper Buckskin	Nev.	14	45N	39E	8200	3-4	19.9	a 6.8	-	14.2	-	10.2	13
Upper Jack Creek	Nev.	9	42N	53E	7800	3-1	30.8	a 9.7	-	10.7	9.4	10.2	10
MALHEUR RIVER													
Barney Creek	143	16	14S	36E	5950	3-1	36.7	10.8	-	4.6	-	4.6	1
Blue Mountain Springs	133	21	15S	35E	5900	2-28	60.5	19.6	14.1	10.4	7.4	14.5	10
Crane Prairie	137	24	16S	34E	5375	2-27	40.6	12.8	7.8	6.5	6.3	8.9	7
Lake Creek	136	10	16S	33½E	5120	2-27	46.5	14.6	8.2	8.2	6.2	10.4	7
Rock Spring	134	23	18S	32E	5100	2-24	28.1	8.0	6.0	4.7	4.8	7.0	10
Stinking Water	135	33	21S	34E	4800	2-25	20.1	6.2	6.3	0.8[b]	4.3	4.5	8

a - Telegraphic; subject to minor revision.
b - Estimated.

STREAM BASINS (Primary & Secondary & Snow Courses)	LOCATION Oregon Number	Sec.	Twp.	Range	Elev.	SNOW COVER MEASUREMENTS About March 1, 1946 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	Average Water Depth (Inches) One Month Ago (2-1-46)	One Year Ago (3-1-45)	Two Years Ago (3-1-44)	Avg. for past yrs. of record	Yrs. of record
BURNT RIVER													
Barney Creek	143	16	14S	36E	5950	3-1	36.7	10.8	-	4.6	-	4.6	1
Blue Mountain Summit	141	6	12S	36E	5098	2-28	44.6	12.3	9.5	7.3	4.6	8.4	10
Dooley Mountain	156	32	11S	40E	5430	2-28	36.9	12.1	9.8	9.4	5.9	9.1	7
Tipton	142	34	10S	35½E	5100	3-1	45.6	17.6	9.2	11.7	-	7.9	3
POWDER RIVER													
Anthony Lake	155	18	7S	37E	7125	2-26	75.2	31.8	27.8	-	13.0	20.2	6
Dooley Mountain	156	32	11S	40E	5430	2-28	36.9	12.1	9.8	9.4	5.9	9.1	7
Eilertson Meadows	151B	18	8S	38E	5400	2-27	51.3	15.6	10.1	7.0	5.2	10.8	9
IMNAHA RIVER													
Aneroid Lake No. 1	183	16	4S	45E	7480	3-2	98.2	36.7	-	19.7	16.8	18.2	2
Aneroid Lake No. 2	183A	16	4S	45E	7000	3-2	73.0	28.5	-	13.6	13.3	13.4	2
Coverdale	171	22	5S	47E	4250	2-28	58.0	17.4	-	5.4	-	5.4	1
GRANDE RONDE RIVER													
Aneroid Lake No. 1	183	16	4S	45E	7480	3-2	98.2	36.7	-	19.7	16.8	18.2	2
Aneroid Lake No. 2	183A	16	4S	45E	7000	3-2	73.0	28.5	-	13.6	13.3	13.4	2
Anthony Lake	155	18	7S	37E	7125	2-26	75.2	31.8	27.8	-	13.0	20.2	6
Beaver Reservoir	188	8	5S	37E	5340	3-1	41.2	12.8	8.7	8.0	6.8	11.0	7
Meacham	221	24&25	1S	35E	4300	3-1	40.3	14.3	9.6	7.2	7.0	8.8	9
Moss Spring	186A	28	3S	41E	5850	2-28	75.6	24.1	18.7	16.8	13.5	18.7	7
Tollgate	212	32	4N	38E	5070	3-1	93.7	35.5	27.1	15.3	19.9	21.4	7

STREAM BASINS (Primary & Secondary & Snow Courses)	LOCATION Oregon Number	Sec.	Twp.	Range	Elev.	SNOW COVER MEASUREMENTS About March 1, 1946 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	Average Water Depth (Inches) One Month Ago (2-1-46)	One Year Ago (3-1-45)	Two Years Ago (3-1-44)	Avg. for past yrs. of record	Yrs. of record
LOWER COLUMBIA DRAINAGE													
WALLA WALLA RIVER													
Tollgate	212	32	4N	38E	5070	3-1	93.7	35.5	27.1	15.3	19.9	21.4	7
UMATILLA RIVER													
Emigrant Springs	222	29	1N	35E	3925	3-1	33.5	12.7	10.2	4.9	5.2	6.7	9
Lucky Strike	223	28	3S	32E	5050	2-28	47.4	14.6	10.4	10.0	8.2	10.8	7
Meacham	221	24&25	1S	35E	4300	3-1	40.3	14.3	9.6	7.2	7.0	8.8	9
Tollgate	212	32	4N	38E	5070	3-1	93.7	35.5	27.1	15.3	19.9	21.4	7
WILLOW CREEK													
Arbuckle Mountain	241	33	4S	29E	5400	2-26	44.8	14.8	12.4	9.1	8.0	9.7	5
JOHN DAY RIVER													
Arbuckle Mountain	241	33	4S	29E	5400	2-26	44.8	14.8	12.4	9.1	8.0	9.7	5
Beech Creek Summit	246A	4	12S	30E	4800	2-27	20.6	6.8	7.4	2.9	4.7	6.5	9
Blue Mountain Springs	133	21	15S	35E	5900	2-28	60.5	19.6	14.1	10.4	7.4	14.5	10
Blue Mountain Summit	141	6	12S	36E	5098	2-28	44.6	12.3	9.5	7.3	4.6	8.4	10
Izee Summit	964	28	16S	29E	5293	2-26	33.4	9.7	10.7	5.8	6.1	8.2	10
Olive Lake	245	14	9S	33½E	6000	2-28	65.3	22.2	16.1	12.3	8.6	14.4	10
Snow Mountain	965	1	19S	26E	6300	2-27	46.1	16.2	-	10.0	5.6	7.8	2
Starr Ridge	247B	20	15S	31E	5150	2-26	25.3	8.3	8.0	3.4	5.0	5.7	10
DESCHUTES RIVER													
Cascade Summit	321	7	23S	6E	4880	Not Measured			35.8	14.0	14.4	14.2	2
Clear Lake	361	29	4S	9E	3500	2-24	44.8	15.7	-	3.1	5.9	5.6	4

STREAM BASINS (Primary & Secondary & Snow Courses)	Oregon Number	LOCATION Sec.	Twp.	Range	Elev.	SNOW COVER MEASUREMENTS About March 1, 1946 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	Average Water Depth (Inches) One Month Ago (2-1-46)	One Year Ago (3-1-45)	Two Years Ago (3-1-44)	Avg. for past yrs. of record	Yrs. of record
DESCHUTES RIVER (Cont'd.)													
Hogg Pass	351	24	13S	7½E	4755	2-28	128.0	52.4	42.0	16.8	20.2	27.9	5
Marks Creek	344	25	12S	19E	4540	2-28	20.4	6.0	7.3	1.0	2.4	4.7	8
Ochoco Meadows	341	21	13S	20E	5200	3-1	43.4	14.6	12.8	8.2	6.1	9.2	10
Snow Mountain	965	1	19S	26E	6300	2-27	46.1	16.2	-	10.0	5.6	7.8	2
Tamarack	342	8	15S	25E	4800	2-28	28.6	9.8	-	5.1	3.1	5.1	3
SANDY RIVER													
Phlox Point-Mt.Hood	452	6	3S	9E	5600	3-4	190.9	54.4	63.0	26.8	25.2	39.5	8
Still Creek	451	25	3S	8½E	3700	3-5	82.7	33.7	28.0	7.3	10.2	14.0	8
CLACKAMAS RIVER													
Clackamas Lake	592	35	5S	8½E	3400	2-25	47.0	15.8	-	-	4.1	10.3	6
Peavine Ridge	591	14&15	6S	7E	3500	2-28	56.0	19.5	16.1	6.8	7.3	11.9	8
WILLAMETTE RIVER													
Breitenbush	551	21	9S	7E	2325	2-28	15.5	5.0	4.3	Trace	0.2[b]	0.8	4
Cascade Summit	321	7	23S	6E	4880	Not Measured			35.8	14.0	14.4	14.2	2
Champion	522	12	23S	1E	4500	2-28	92.1	35.2	28.3	4.9	14.3	17.3	7
Hogg Pass	351	24	13S	7½E	4755	2-28	128.0	52.4	42.0	16.8	20.2	27.9	5
Marion Forks	553	28	11S	7E	2730	2-28	44.3	17.4	13.8	Trace	3.4	6.9	5
Santiam Junction	552	14	13S	7E	3990	2-28	79.2	32.8	24.5	7.0	6.8	13.1	5
INTERIOR DRAINAGE													
SILVER LAKE													
Silver Creek	942	25&26	29S	13E	4900	3-1	13.3	4.1	4.9	0.0	2.7	3.3	6

b - Estimated.

STREAM BASINS (Primary & Secondary & Snow Courses)	LOCATION Oregon Number	Sec.	Twp.	Range	Elev.	About March 1, 1946 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	Average Water Depth (Inches) One Month Ago (2-1-46)	One Year Ago (3-1-45)	Two Years Ago (3-1-44)	Avg. for past yrs. of record	Yrs. of record
CHEWAUCAN RIVER													
Mill Creek	922	1	34S	17E	6200	Abt. 3-1	33.0 a	9.6	-	5.9	4.2	6.3	7
HARNEY BASIN													
Deer Creek	973	17	36S	26E	6670	2-25	25.0	8.1	5.9	-	5.9	7.5	5
Hart Mountain	971	1	36S	25E	6350	2-26	2.0	0.6	0.9	-	2.8	4.1	6
Idylwild Park	961A	33	20S	31E	5200	2-25	32.1	8.6	5.5	4.3	4.3	5.8	11
Izee Summit	964	28	16S	29E	5293	2-26	33.4	9.7	10.7	5.8	6.1	8.2	10
Rock Spring	134	23	18S	32E	5100	2-24	28.1	8.0	6.0	4.7	4.8	7.0	10
Snow Mountain	965	1	19S	26E	6300	2-27	46.1	16.2	-	10.0	5.6	7.8	2
Starr Ridge	247B	20	15S	31E	5150	2-26	25.3	8.3	8.0	3.4	5.0	5.7	10
WARNER LAKE													
Camas Creek	911A	5	39S	21E	5720	2-28	39.5	13.0	9.3	8.8	7.6	8.2	2
GUANO LAKE													
Bald Mountain	Nev.	17	45N	21E	6720	2-28	10.7	3.1	-	3.3	3.4	4.9	6
Guano Creek	972	13	36S	25E	6480	2-26	22.0	7.7	4.6	-	4.4	7.2	5
WEST COAST DRAINAGE													
UMPQUA RIVER													
Champion	522	12	23S	1E	4500	2-28	92.1	35.2	28.3	4.9	14.3	17.3	7
Diamond Lake	743	29	27S	6E	5315	2-28	83.8	31.8	26.1	9.7	10.6	16.4	9
Goolaway Gap	726	32	32S	3W	3000	2-25	4.4	1.8	1.3	0.0	1.0	1.2	7
Goolaway Mountain	7215	30	32S	3W	3730	2-25	19.4	7.3	2.1	0.2	2.7	3.0	7

a - Telegraphic; subject to minor revision.

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ROGUE RIVER													
Althouse	7216	17	41S	7W	4400	2-28	15.9	5.0	2.5	0.7	2.2	4.8	7
Annie Spring	831	19	31S	6E	6018	2-26	148.4	63.2	42.2	24.2	21.7	34.2	12
Billie Creek Divide	722	30	36S	5E	6000	2-25	75.8	29.9	24.8	15.2	15.5	21.2	14
Fish Lake	725	3	37S	4E	4865	2-28	47.2	16.8	16.8	4.5	8.9	12.2	11
Goolaway Gap	726	32	32S	3W	3000	2-25	4.4	1.8	1.3	0.0	1.0	1.2	7
Goolaway Mountain	7215	30	32S	3W	3730	2-25	19.4	7.3	2.1	0.2	2.7	3.0	7
Grayback Peak	727	9	40S	5W	6000	2-27	53.5	20.4	18.1	7.2	14.4	16.2	4
Hyatt Prairie Reservoir	723	15	39S	3E	4900	2-26	38.7	13.3	11.0	3.7	11.1	10.0	13
Park Headquarters	838	8	31S	6E	6450	2-26	155.4	68.4	-	32.1	-	47.2	2
Silver Burn	7219	30	30S	4E	3720	2-28	46.0	17.4	11.8	0.8	8.7	9.3	9
Siskiyou Summit	728	17	40S	2E	4630	2-24	21.3	8.2	5.1	0.4	5.0	5.8	10
South Fork Canal	7218	12	33S	3E	3500	3-2	10.7	4.0	2.4	Trace	1.7	3.7	9
Wagner Butte	7213	1	40S	1W	6900	2-28	41.7	14.9	14.6	8.5	11.9	13.6	8
KLAMATH LAKE BASIN													
Annie Spring	831	19	31S	6E	6018	2-26	148.4	63.2	42.2	24.2	21.7	34.2	12
Beatty 2/		22	36S	12E	4300	2-28	1.9	0.3	0.3	0.0	0.5	0.2	19
Billie Creek Divide	722	30	36S	5E	6000	2-25	75.8	29.9	24.8	15.2	15.5	21.2	14
Chemult No. 1	834	21	27S	8E	4760	2-28	52.7	17.6	13.9	5.1	6.1	10.2	9
Chiloquin 2/		34	34S	7E	4187	2-28	5.0	0.9	1.0	0.0	1.2	1.7	16
Crowder Flat (Calif.)		30	47N	11E	5200	2-28	13.5	5.4	5.0	-	-	3.7	5
Crystal 2/		26	34S	6E	4200	2-28	37.0	11.0	10.8	2.0	7.0	8.0	16
Fort Klamath 2/		22	33S	7½E	4150	2-28	12.0	3.3	1.8	0.0	5.1	4.3	19
Hyatt Prairie Reservoir	723	15	39S	3E	4900	2-26	38.7	13.3	11.0	3.7	11.1	10.0	13
Kirk 2/		1	33S	7E	4533	2-28	28.5	11.8	11.0	0.0	5.8	6.3	18
Lake of the Woods No.1	835	11	37S	5E	4960	2-28	39.9	12.7	11.0	3.7	7.8	7.9	9
Park Headquarters	838	8	31S	6E	6450	2-26	155.4	68.4	-	32.1	-	47.2	2
Pelican 2/		10	36S	6E	4200	2-28	14.0	4.6	3.5	0.2	6.6	4.2	19

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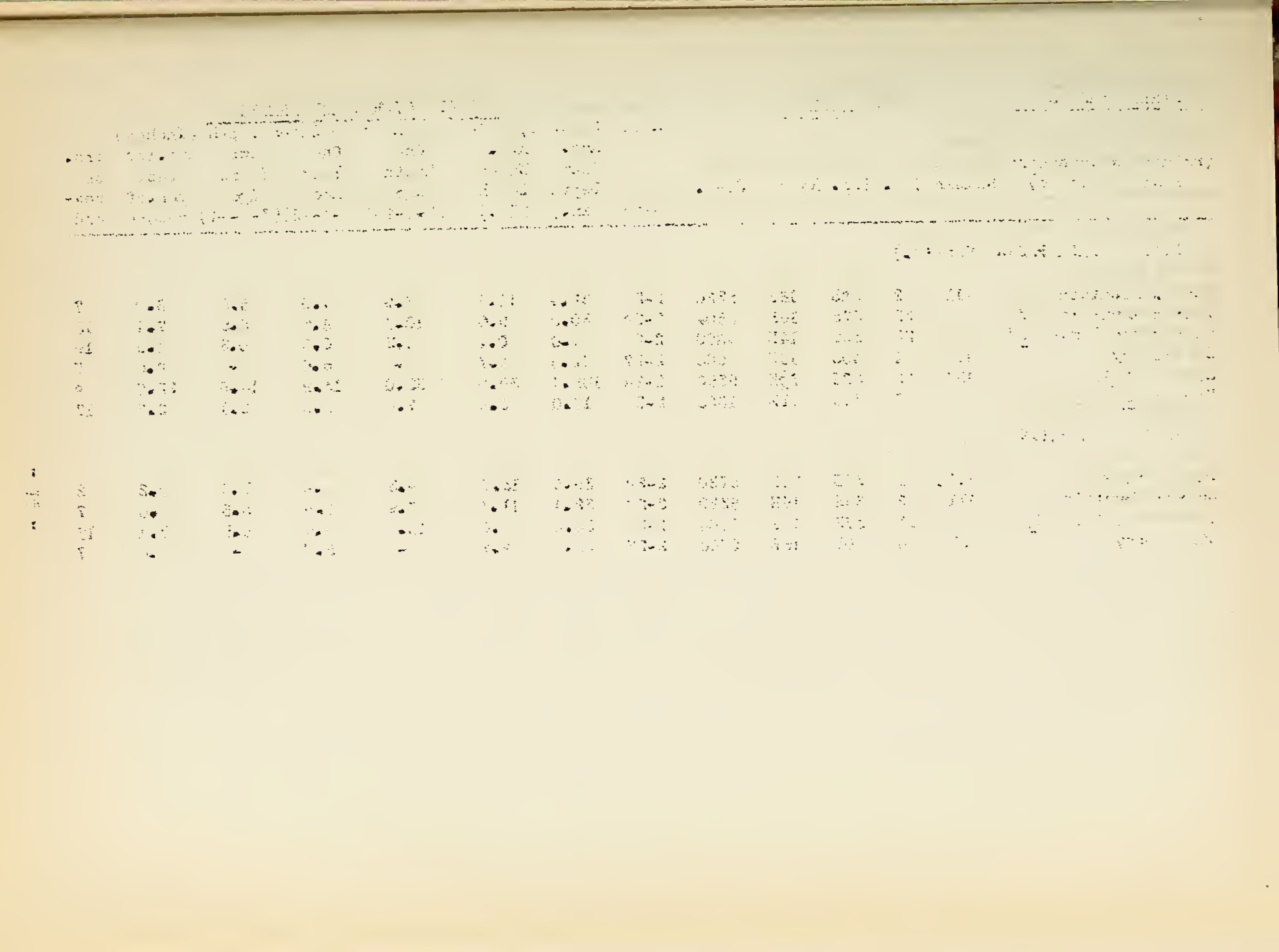
KLAMATH LAKE BASIN (Cont'd.)													
Quartz Mountain	811	2	38S	16E	5320	2-28	32.4	11.1	7.9	4.9	5.5	6.0	7
Quartz Mountain 2/		33	37S	16E	5504	2-28	30.0	9.0	10.8	8.5	5.5	7.1	15
Richardson Ranch 2/		22	35S	14E	4800	2-28	4.0	0.4	1.2	0.0	0.3	1.9	19
Strawberry	837	4	40S	16E	5600	2-27	32.8	8.7	-	5.6	-	8.0	7
Sun Mountain	836	22	32S	7½E	5350	2-28	105.1	39.0	33.0	13.9	14.6	22.6	8
Yamsey 2/		7	31S	11E	4600	2-28	16.0	6.2	7.0	0.0	2.1	2.2	17
GOOSE LAKE BASIN													
Camas Creek	911A	5	39S	21E	5720	2-28	39.5	13.0	9.3	8.8	7.6	8.2	2
Quartz Mountain	811	2	38S	16E	5320	2-28	32.4	11.1	7.9	4.9	5.5	6.0	7
Quartz Mountain 2/		33	37S	16E	5504	2-28	30.0	9.0	10.8	8.5	5.5	7.1	15
Strawberry	837	4	40S	16E	5600	2-27	32.8	8.7	-	5.6	-	8.0	7



1/ The following organizations cooperate in the Oregon snow survey work:

STATE
- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon Agricultural Experiment Station
- Oregon State Engineer and corps of State Watermasters
- Oregon State Highway Engineers

FEDERAL
- Department of Agriculture
  - Forest Service
  - Soil Conservation Service
- Department of Commerce
  - Weather Bureau
- Department of the Interior
  - Bonneville Power Administration
  - Bureau of Reclamation
  - Fish and Wildlife Service
  - Geological Survey
  - Indian Service
  - National Park Service
- War Department
  - Army Engineer Corps

PUBLIC UTILITIES
- Eastern Oregon Light and Power Company
- Portland General Electric Company
- The California Oregon Power Company

MUNICIPALITIES
- City of Corvallis
- City of LaGrande
- City of The Dalles

IRRIGATION DISTRICTS
- Associated Ditch Companies
- Central Oregon Irrigation District
- Deschutes County Municipal Improvement District
- Grants Pass Irrigation District
- Jordan Valley Irrigation District
- Lakeview Water Users Incorporated
- Medford Irrigation District
- Ochoco Irrigation District
- Rogue River Irrigation District
- Talent Irrigation District
- Vale-Oregon Irrigation District
- Warmsprings Irrigation District

PRIVATE CORPORATIONS
- Amalgamated Sugar Company

2/ Water content determined by melting a measured sample.
(The California Oregon Power Company's station)